

TRAINING OF THE MALARIOLOGIST*

*M. A. Faghih***

ABSTRACT

With the recent changes in the status of malaria and in the strategy of malaria eradication, and with more emphasis given to the planning of the anti-malarial campaign within a coordinated health and socio-economic development plan; with the betterment of methodology for comprehensive health planning and the refinement of administration and management techniques; and with rapidly increasing medical knowledge and technology; there is need for a revision of the programs for the training of the professional malaria staff, particularly the "malariologist".

In the present paper, the above changes and developments as well as the experience gained are reviewed, the profile of an ideal epidemiologist/malariologist is given, and the pattern of the program for the training of such a person, including basic, special and advanced training, is described and, wherever necessary, is exemplified.

Emphasis is also given to the development of speciality training in the field of epidemiology/malariology as well as to continuing education for perfecting, converting or professional up-grading of the key malaria man.

"In a rapidly changing world, the traditional systems of educating health personnel are no longer adequate, however excellent they may have been in the past. Innovations are needed to meet the growing demand for health care everywhere and to reap the full benefit of advances in science and technology."

(Technical Discussions at the 23rd W.H. Assembly — (1970)(1).

INTRODUCTION

In planning any training program, the first essential is to define the

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** School of Public Health and Institute of Public Health Research, University of Teheran; P.O. Box 1310, Teheran, Iran.

Experience has shown that the future of the professional malaria staff, trained within the classical system, will possibly be one of the following :

1. receiving additional training in the field of malaria and continuing to work in the same field (advancing to a higher position in malaria);
2. receiving additional training in other public health disciplines and shifting to new areas of public health service;
3. leaving public health and joining other sectors.

To illustrate the above, a preliminary analysis of 321 graduates of 14 malariology courses offered by the Institute of Public Health Research, University of Teheran, between the years 1952 and 1963, shows that by June 1973, that is, 10 years after the last course was organized, nearly 10% remained in the field of malaria, another 10% with or without further training were shifted into the broader fields of public health, such as administration and epidemiology, and the remaining 80% were not with preventive programs at all.(8)

It should be stated, however, that more than half of the participants in these courses were students of the medical school who participated in these courses during the senior years of their undergraduate period of training, of which the majority have not joined preventive programs upon their graduation from medical training.

WHY THE MALARIOLOGIST?

With the broadening of knowledge and development of methodology and technology in the field of malaria, with more emphasis and need developed toward a closer coordination of the anti-malaria campaign with other public health activities in particular and with socio-economic development programs in general, with past shortcomings and handicaps in supplying needed malaria personnel, and with the changing strategy of global malaria eradication, it is now time to raise this question: who is the key malaria man responsible for the planning, execution, administration and coordination of this program, what should be his qualifications and experience, and what type of training or re-training should he receive?

The broadening and strengthening of knowledge, skills and attitudes of professional malaria personnel through the development of a flexible training program, oriented to meet the actual and future needs of the country and to prepare personnel to better understand the status and relationship of the malaria program with other public health and socio-economic activities and to enable them to render services to other fields, have been repeatedly stressed and recommended by several WHO Expert Committees(5,9,10), Technical Meeting and Malaria Conferences.(1,11,12,13)

Based on these views, the main qualifications of such a key malaria man, in other words, the profile of a good malariologist(7), should be as follows. He should be:

- a public health specialist (with medical background);

- a scientist with sufficient orientation toward general epidemiology and teaching ability;
- capable of assessing the significance of malaria in the community and capable of giving well-documented advice;
- possessing enough laboratory and field experience to enable him to direct, coordinate and evaluate the works of those working with and under him;
- capable of responding to challenge and dealing with all types of technical, administrative and managerial problems; and
- capable of adapting to the changing health needs of his/her country and able to shift to broader fields when the need arises.

This is an ideal definition of a key malaria man, who is far from a classical malariologist; but how far we can succeed in finding, training, placing and securing this person, is subject to discussion.

It is believed, however, that this person, because of his broader knowledge and his wider field of activity and for the reason of not limiting his career within the narrow limits of malariology, should not be called "malariologist". A name such as one of those suggested by WHO Informal Consultation⁽⁷⁾, i.e., "Epidemiologist (Malaria)", "Public Health Advisor (Malaria)", or "Public Health Specialist (Malaria)", is more appropriate.

TYPE OF TRAINING

Based on what has been said above, one may conclude that a reasonable training program set for the key malaria man should pursue the following pattern:

- Basic training in general public health and epidemiology with particular emphasis on major communicable and tropical diseases and their control. This training should be of such level and duration that it would clearly determine and secure the future career of the trainee.
- Special and comprehensive training in malariology and malaria control/eradication techniques in which all other subjects relevant to and necessary for making this field of activity meaningful within the overall public health and socio-economic development plans should be included.
- Additional training (when needed) of re-orientation, refreshing or advanced types, aimed respectively at conversion, maintenance and perfecting of qualifications or at professional promotion.

1. Basic training

The aims of this training could be fully realized either in an existing graduate course of the "MPH, DPH, DTPH, DTM&H" type or they would need to be organized around the curriculum of these programs. However, this training falls under the competence of universities and affiliated training institutions.

The MPH program (major in epidemiology) organized at the School of Public Health, University of Teheran, could be cited as one of the flexible academic courses of this type around which an area of concentration on malaria (or similar subjects) could easily be built. This program (like other MPH courses) consists of two semesters (the first includes mainly core or basic subjects) followed by two months of field training and the preparation of two dissertations.

The curriculum, in brief, consists of :

— Epidemiology (principles, special topics)	8 Units
— Pathobiology (general, special topics)	7 Units
— Vital and Health Statistics	5 Units
— General or Core Subjects (H.E., P.H.P., E.H., etc...)	8 Units
— Electives	4 Units

2. *Special training*

This training could be organized either by the University or by affiliated institutions (as an independent course or as a part of advanced academic training), or by malaria training centers, research institutions and other recognized units.

The curriculum, generally of about 4 months duration (equivalent to one academic semester), could follow the standards and contents given by WHO for the "Course in malaria eradication for professional staff"⁽¹⁴⁾. Supervised field training of suitable duration should follow the main course.

The way to combine and inter-relate the special training with the basic training depends upon the need of the country's anti-malaria campaign, the objectives of the individual's program, and the availability of resources for basic training inside the country.

If the country's need for a professional malaria staff is urgent, the special training may anticipate the basic training. Under this circumstance, malariologists will receive academic public health training after several years of work in the field of malaria. This pattern has advantages for the screening of candidates and selection of those having enough intelligence, enthusiasm and professional competence and skills to pursue a wider field in public health.

However, the preferred pattern is to start with the basic training and to continue with special training concentrated on malaria.

In both cases, it is preferred that the candidates have a few years of public health orientation. The School of Public Health, University of Teheran, requires a minimum of two years of field experience in public health before entering academic courses.

3. *Advanced training*

Under certain circumstances and if time permits and resources are avail-

able, the training curriculum can be designed to lead to specialization in epidemiology/malariology (similar to other branches of medicine and public health). In these cases, the basic and the recognized special training will be taken as part of the specialization program. Then the student will receive another academic semester of advanced training (designed for the individual student) followed by at least one full year of supervised field training, during which the candidate must carry out applied research and prepare a scientific paper (thesis).

This pattern, although it seems lengthy and needing more training resources, has the advantage, however, of better determining and securing the candidate's future career and bringing him more professional prestige and personality in his field, as compared with his colleagues in other branches of medicine. Needless to say, this program will attract more candidates.

4. *Continuing education*

It is believed that, as the amount of knowledge in health science is growing rapidly, as the human environment and health situation and consequent needs are constantly and rapidly changing, and as factual knowledge during formal training quickly sinks into oblivion or more rapidly becomes obsolete, the estimated half-life of medical knowledge and the professional competence of graduates is now very short, that is, only about 5 years.⁽¹⁵⁾ Therefore, the education of health personnel should be considered as a continuum which starts with basic or special training and continues with further training aimed at conversion to new types of professions, at perfecting of qualifications to adjust to changing needs, and at obtaining higher qualifications in the same field as a requirement for professional promotion.

To meet the above needs, refresher or advanced courses of various duration should be organized for the epidemiologist/malariologist. The level, content and duration of these courses will vary according to the needs and particular objectives. However, they should particularly include advances made in subjects pertaining to malariology and allied fields and should allow a sufficient amount of time for electives and individual learning.

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